

REMARKS

This is in response to the Office Action dated September 21, 2007. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

By the above amendment, claims 16, 22, and 24-27 are amended; claims 1-15, 17-21, 23, and 28-35 are cancelled; and claims 36-41 are newly presented. Thus, claims 16, 22, 24-27 and 36-41 are currently pending in the present application. Each of the pending claims reads on the elected invention. Support for claim 36 and 40 can be found at least on page 35, lines 1-7 of the specification as originally filed. Support for claim 37 and 41 can be found at least on page 43, lines 7-9 of the specification as originally filed. Support for claim 38 can be found at least on page 35, line 24 to page 36, line 2 of the specification as originally filed. New independent claim 39 is similar to claim 24 but also includes the holes (111a).

Next, to facilitate the Examiner's reconsideration of the application, the specification and abstract have been reviewed and revised in order to make a number of minor clarifying and other editorial amendments. Note that the changes to the abstract are submitted in the form of a substitute abstract. Copies of the amended portions of the specification, claims and abstract with changes marked therein are attached and entitled "Version with Markings to Show Changes Made."

Next, on pages 2-4 of the Office Action, the claims are rejected over the prior art as follows:

Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-48188; and

Claims 22-28, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-48188.

It is submitted that the present invention, as embodied by the amended claims, now clearly distinguishes over JP '188 for the following reasons.

JP '188 discloses a bucket provided with an anti-vibration device having a laminated plate attached by a bolt joint or by welding at a plurality of positions. The laminated plate includes an outer plate and a plurality of inner plates coupled to a machine that is an object of vibration damping. The inner plates are tightly sealed by the outer plate, and the machine that is an object of vibration damping.

In the present invention, as defined in claim 16, intermittent welding is performed on the peripheral edges of the inner plates. In contrast, in the JP' 188 device, the intermittent welding is clearly not performed on the peripheral edges of the inner plates.

Further, in JP '188 (see paragraph [0029] and Fig. 8), the peripheral edges of the inner plates are not intermittently welded as only plug welding is performed randomly through the inner plates.

Accordingly, in JP '188 the plug welding is performed randomly to connect the inner plates, and, as in the case of intermittent welding, the plug welding provides a relatively low bonding level in comparison with continuous welding (all around welding). However, in the case of the plug welding performed in JP '188, the welded parts limit the deformation of the inner plates. Thus, friction or collisions occurring between the plates is less frequent, which results in deterioration of the noise reduction effect. On the other hand, in the case of the intermittent welding performed on the peripheral edges of the inner plates, as claimed in the present invention, the friction or collisions occurring between the plates is more frequent, and thereby the noise reduction effect is increased. Clearly, the present invention, as defined in claim 16, is different in structure and effect from the JP '188 device. Note that the effects of the present invention can be achieved only by the intermittent welding of the inner plates.

In the explanation of the rejection under 35 U.S.C. 103(a), the Examiner acknowledges that JP '188 does not disclose intermittent welding at a plurality of locations on peripheral edges of the inner plates. However, the Examiner takes "official notice" that the particularly claimed arrangement is a notoriously well known means of attaching plates to machines. Accordingly, the Examiner is requested to provide a reference in support of the stated position. Note that claim 16 requires intermittent welding in a particular location for the particular purpose of providing an improved noise reduction effect.

Further, with respect to claim 25, the Examiner takes the position that Fig. 7 of JP '188 shows a plurality of protruding parts on the inner plates that match a peripheral edge shape of the outer plate. However, the cross-sections shown in Figs. 7(a-e) do not show protruding parts formed by the inner plates. Thus, claim 25 is clearly allowable over the JP '188 reference.

Further, with respect to claims 26 and 27, the Examiner states that the recited range would have been an obvious design choice since "applicant has not disclosed that these ranges solve any particular problem or purpose and it appears other similar ranges would work equally well." The Examiner's position is respectfully traversed.

Initially, the Examiner's attention is directed to page 38, line 10 to page 39, line 11 of the specification as originally filed. In this portion of the specification, the relationship between the noise reduction effect and the welding pitch of the inner plates is described. As explained therein, Applicant has discovered that if the welding pitch is in excess of 280 mm, the noise reduction effect drops as a result of a knocking sound generated by knocking between the inner plates, which is caused by local vibration of the peripheral edges of the inner plates. However, if

the welding pitch is less than 100 mm, the relative displacement between the inner plates is unduly restricted, and the noise level increases as shown in Fig. 17. Thus, the stated range does solve a particular problem and other similar ranges would not work as well. Furthermore, the JP '188 reference does not appear to disclose protruding parts of the inner plates (claim 16) or a contact part that protrudes from a peripheral edge of the outer plate (claim 24), and thus, the claimed range is not applicable to the JP '188 device.

Further, new claims 36-38 require that the contact part is demarcated by a cut-out part, and that the cut-out part has a rectangular shape (claim 36) or a wave shape (claim 37). The JP '188 device lacks any structure corresponding to the cut-out part, and therefore the JP '188 reference clearly does not disclose or suggest a cut-out part having a particular shape.

Further, new independent claim 39 requires the combination of cutout parts in the inner plates for intermittent welding and interiorly disposed holes through the outer plate and the inner plates for plug welding. This arrangement is clearly not disclosed or suggested by the prior art of record.

In view of the above, it is submitted that the present application is now clearly in condition for allowance. The Examiner therefore is requested to pass this case to issue.

In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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ABSTRACT

The invention provides a A vibration damping device capable of maintaining high vibration damping effect, and a bucket for a construction machine. ~~To this end, the~~ The vibration damping device has a laminated plate (20) having at least its inner region fixed in a noise-emitting base material (11), the inner region being a region (G) other than a region which becomes a loop in a vibration mode when the base material (11) is vibrated in a vibration mode with a predetermined frequency.

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